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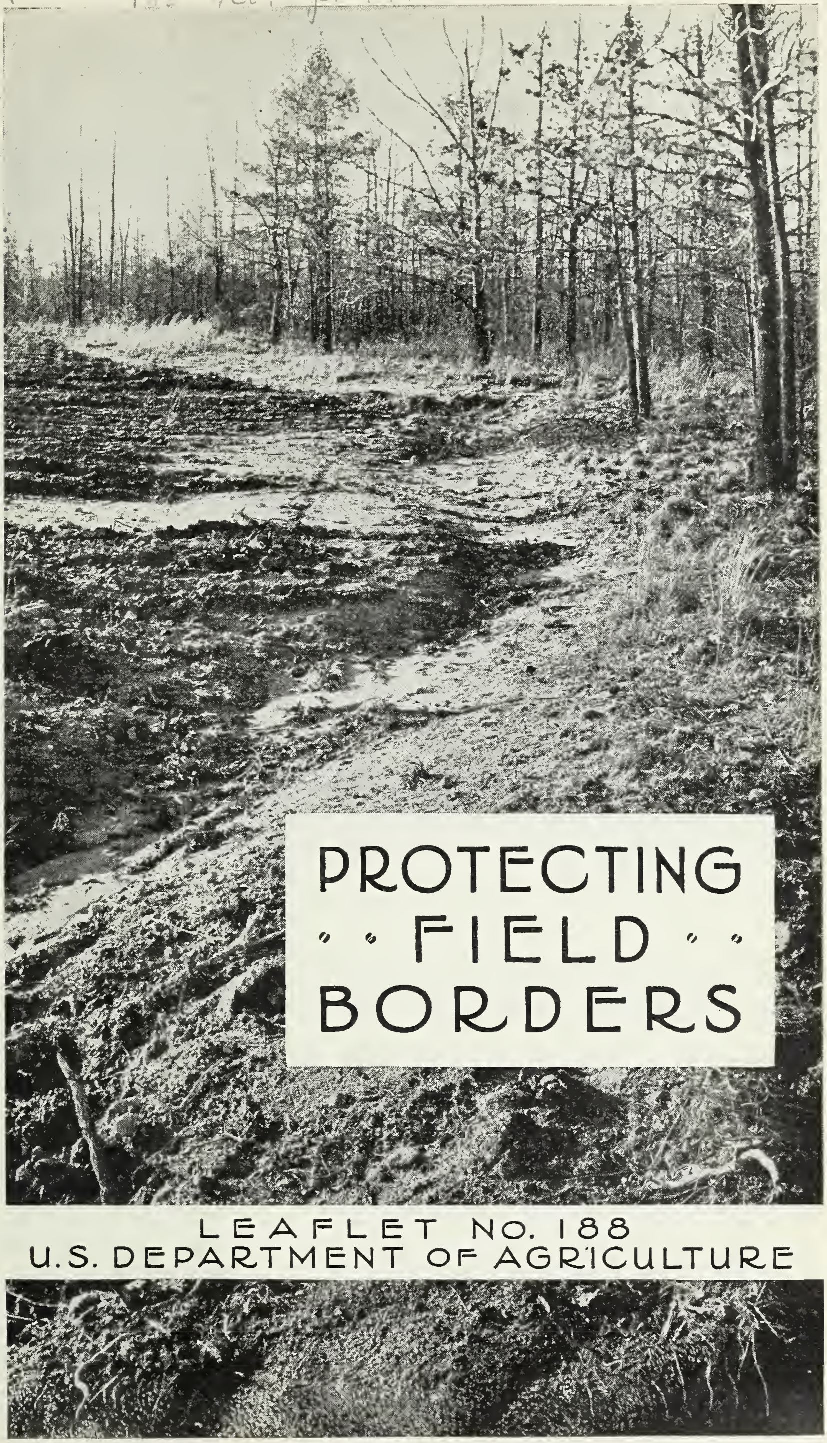

PROTECTING FIELD BORDERS

LEAFLET No. 188
U.S. DEPARTMENT OF AGRICULTURE

PROTECTING FIELD BORDERS

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Field borders in the Southeast have always been an annoying problem. Early settlers cut their farms out of the woodland, and today when land is left idle it is only a short while before trees and shrubs again cover the ground. Even though the farmer is able to prevent the growth of new woody plants on the edge of his field, the roots of mature trees extend beneath the surface into the edge of the field to compete for plant food and moisture, and the trees themselves often shade the adjacent crop. The result is serious because erosion is greatly accelerated by lack of cover and on many fields by the accumulation of water from the ends of furrows (fig. 1).

The border can be made to produce something useful (figs. 2 and 3). The woods can be kept from encroaching on the field by the use of vegetation to control erosion. The unsightly strip can be converted to a border of annual or perennial herbaceous plants for use as a turnrow. It can be made a place that will encourage some of the farm wildlife such as rabbits and quail and other familiar birds. This leaflet explains how farmers in the Southeastern States may protect their field borders and at the same time encourage an increase of desirable wild animals on the farm.

A field border properly prepared should provide: (1) A strip on which woodland encroachment on the field is prevented; (2) a vegetated drain to carry off excess water from the ends of furrows; (3) a turnrow for work animals and equipment; and (4) food, cover, and nesting protection for wildlife.

Locating Borders

A single tree often grows on the very edge of the field, where its roots may compete with field crops for 25 to 50 feet or even farther. Such a tree should be removed, since it causes the border to be irregular in width. Of course it is more difficult to prepare and maintain with farm machinery a strip which is wide at one point and narrow at another. It is also important that the strip be wide enough so that the roots of mature trees will not reach the cropland. In general such a strip should be at least 25 feet wide if the trees of the adjacent woodland are less than 30 feet high; taller trees may affect as much as 50 feet of border. Thirty-five feet is a fair average. The entire 35 feet need not be in one kind of vegetation, nor would such a border produce the best food and cover for birds and mammals.

Since we know that a profitable field crop cannot be produced within 25 to 50 feet of woodland, it seems best to plan the entire strip for wildlife, water disposal, and use as a turnrow. For convenient use as a turnrow, 10 to 20 feet next to the field should be in herbaceous

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vegetation (fig. 4). The herbaceous portion of the border is prepared by plowing a strip of uniform width, throwing the first furrows out to leave a slight channel in the center when completed. Every second or third crop furrow is then led into the border to dispose of surplus water during heavy rains.

A strip next to the woods, approximately 15 to 30 feet in width, should be developed into shrubby growth, the roots of which are not sufficiently extensive to reach beyond the herbaceous strip. Especially effective are fruit-bearing shrubs grown in such a border since they will produce in greater quantity than is possible under the shade and root competition within the forest. In addition, these shrubs will provide well-distributed thickets in which birds will nest and quail, rabbits, and birds may escape from predators or storms (fig. 5). The development of shrub borders is explained in more detail in Leaflet 200, Shrubs for Wildlife on Farms in the Southeast.

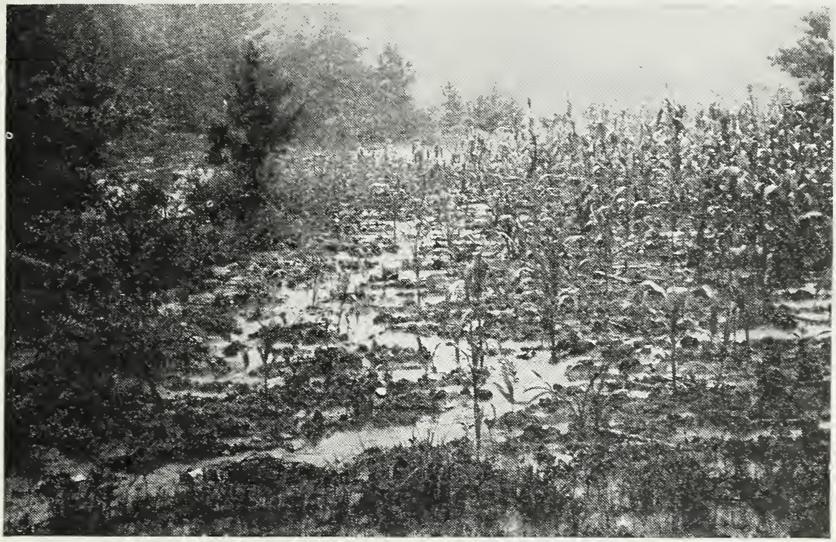

FIGURE 1.—Erosion on field borders is accelerated by the accumulation of water at the ends of contour furrows. Figure 4 shows a similar border on which erosion is now controlled.

Establishing and Maintaining Borders

Each part of the border will require occasional attention to retard the invasion of undesirable plants. Trees should be cut from the shrubby portion so that the shrubs thus released will form a dense thicket. Any shrubs in the herbaceous strip may be removed at the same time.

For field borders crosswise to the direction of cultivation, *Lespedeza sericea*, a perennial legume, has demonstrated its value as an erosion-control plant which is dependable for turnrows. It is particularly reliable along woodlands because it is tolerant to shade and because its deep roots are capable of competing with trees for soil moisture and plant food. It cannot be expected, however, to produce as much seed on field borders as on a site removed from woodland competition.

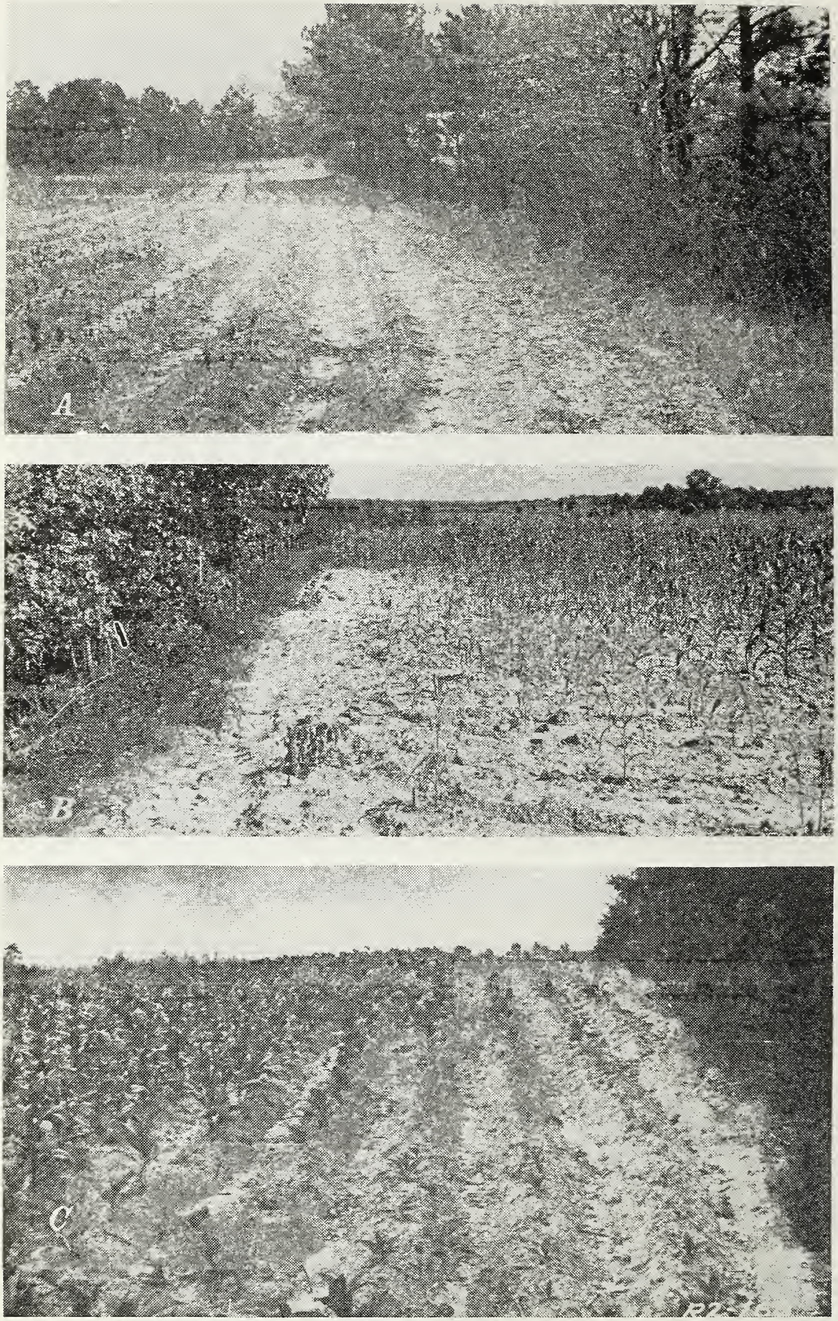

Figure 2.—Between open fields and dense woods are zones in which neither commercial crops nor forest products are adaptable: *A*, Cotton; *B*, corn; *C*, tobacco.

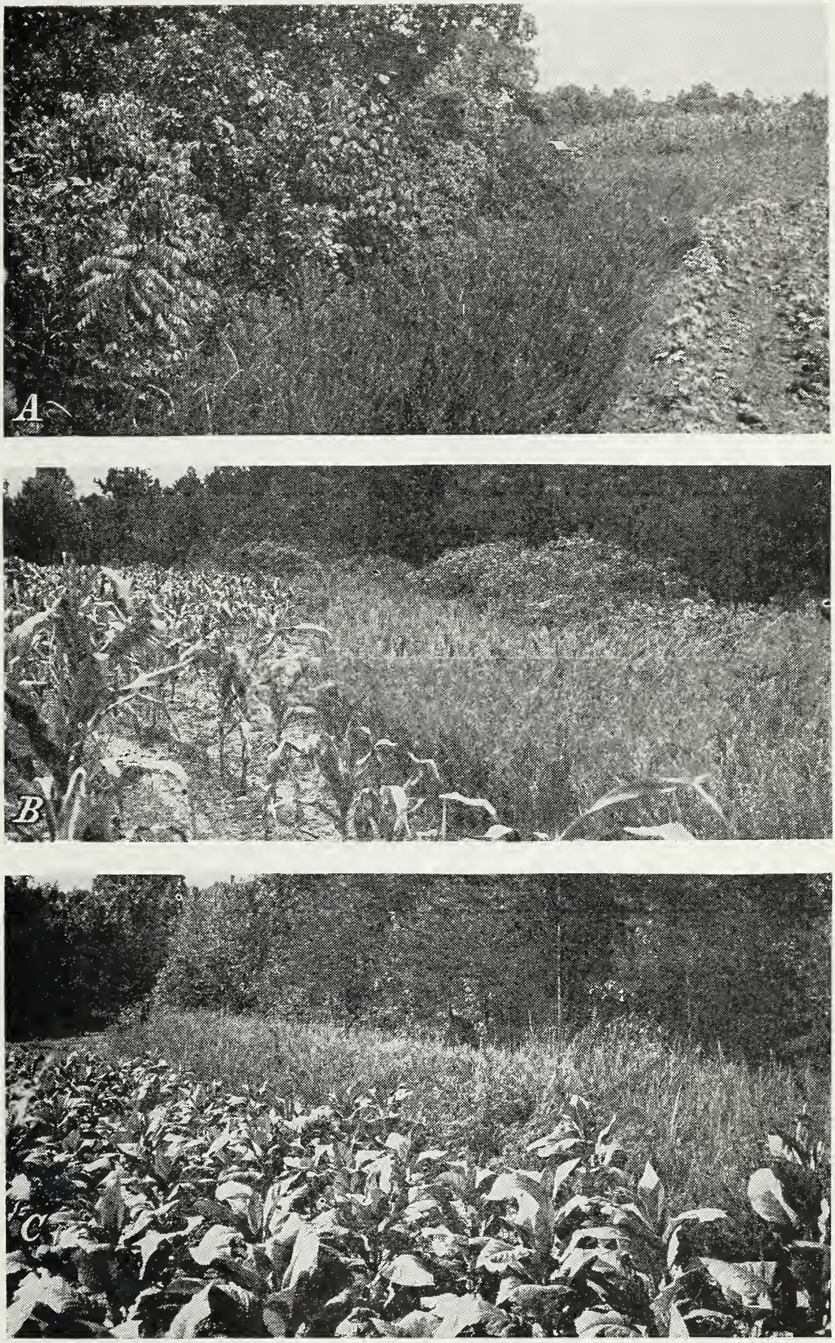

FIGURE 3.—*Lespedeza sericea* is a dependable plant for field borders, particularly along woodlands. Along these fields are no useless, eroding borders such as those in figure 2: *A*, Cotton; *B*, corn; *C*, tobacco.

L. sericea, however, makes sufficient growth so that its foliage in summer and its leaf mulch in winter provide adequate protection for the soil surface. It does not reach full development until the third year, particularly on poor soils. This fact frequently causes farmers to doubt the success of a planting the first and second year, and all too frequently a perfect stand is destroyed between the first and second growing seasons. A competing heavy growth of grasses or weeds may almost hide the yearling plants of *L. sericea*, but the lespedeza will gain the upper hand the second year if unmolested.

If scarified *Lespedeza sericea* seed is used, it should be broadcast at the rate of 15 to 20 pounds per acre, on well prepared soil that has been allowed to settle. The seed should not be covered. A moderate application of fertilizer, especially phosphate, is advisable. On acid soils a little lime will help to establish the young plants. Seeding is usually successful for a period of about 60 days after the average date of the last killing frost. Adequate stands can be obtained at other periods if moisture conditions remain favorable for several weeks, but the risk of failure is relatively high.

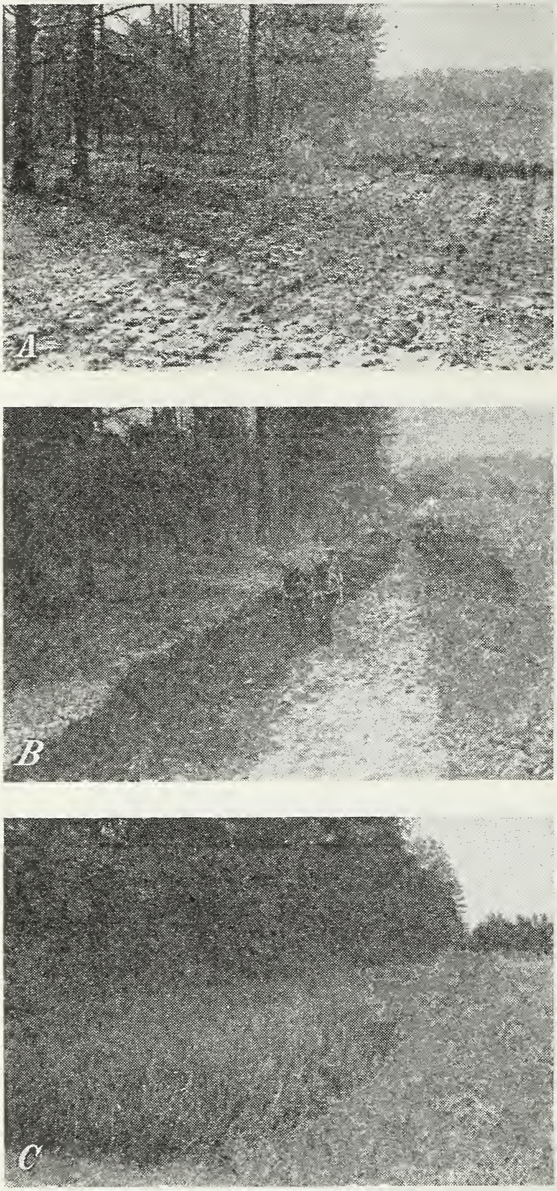

Figure 4.—Borders in preparation for seeding are plowed by throwing the first furrows out to leave a central channel as a drain into which the end-row water from every second or third row can be led as soon as the vegetation becomes established. *A*, Before preparation; *B*, plowing; *C*, after establishment.

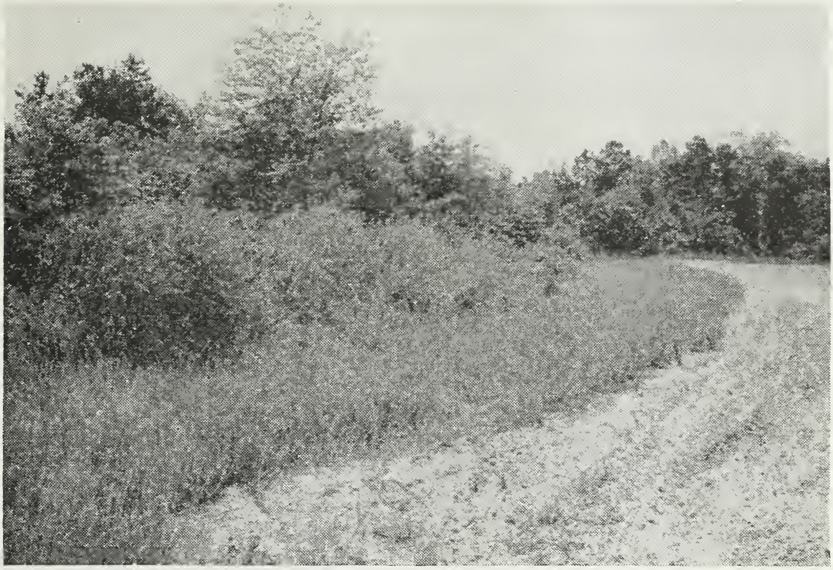

Figure 5.—Wildlife finds its most desirable habitat in the edge between fields and woods. Border strips, properly developed, are particularly attractive to wild animals of the farm such as rabbits, quail, mockingbirds, brown thrashers, and other familar birds that feed on insects and weed seeds of the field in addition to the fruits of wild trees and shrubs.

If most of the topsoil has been washed from the border, a light covering of pine boughs, grain straw, or other similar material should be used as a mulch. Leaflet 190, Mulching to Establish Vegetation on Eroded Areas of the Southeast, fully explains this practice. An application of mulch is helpful in establishing plants by seeding on soil in any condition, but it is almost imperative on very bad sites.

As further explained in the leaflet on mulching, *L. sericea* stems may be used both to seed and mulch a field border if applied soon after the seed ripens in the fall. Unscarified seed should be sown at least 60 days before the spring growing season at the rate of 40 to 50 pounds per acre. Most field borders can and should be treated in the fall and winter when labor is not needed for crop production.

For field borders crosswise to the direction of cultivation, it will be necessary to plow or disk the border to redevelop the central channel when the original channel has lost its carrying capacity because of silting. This should be done in late winter while the sericea is dormant. A dependable stand will return from the crowns and seed if no further cultivation is permitted during the growing season.

A field border parallel to the direction of crop rows may be seeded to annual lespedezas, vetch, browntop millet, or partridge-peas (fig. 6). Here the erosion problem is less if the border is practically level. The strip is not needed as a turnrow or water-disposal channel, but it provides food for wildlife on an otherwise unproductive strip. Borders once seeded to these plants can be kept in the same vegetation by simply plowing or disking them when shrubs, grasses, or other unwanted plants appear. Woodland encroachment is thus prevented.

The annual lespedezas, browntop millet, or partridge-peas will not long retard the invasion of shrubs, vines, and trees unless the border is plowed or grubbed at intervals. *Lespedeza sericea*, on the other hand, definitely holds the woody plants in check so that less maintenance for field protection is required. The annuals are recommended for the lower Coastal Plains, where *L. sericea* may not be adaptable, or for borders of fields that do not contain a supply of similar legumes. A good crop rotation arranged in strips will supply waste seed of fall-maturing legumes in sufficient quantity for wildlife needs, and where this system of farming is followed, *L. sericea* is recommended in preference to the annuals.

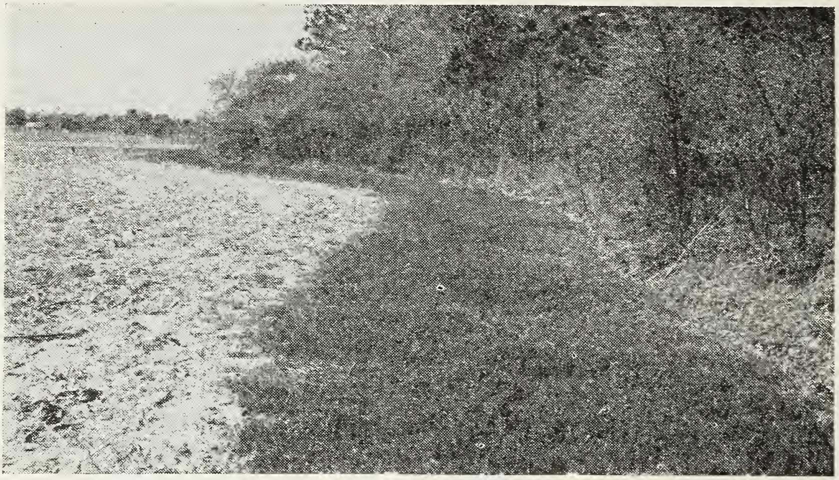

Figure 6.—Field borders paralleling crop rows are sometimes planted to reseeding annual plants for food strips. This border is planted to augusta vetch (*Vicia angustifolia*).

Here are eight points to be remembered.

Accelerated erosion is visible not only adjacent to woodlands but likewise along roads, fence rows, terrace-outlet channels, and other field boundaries crosswise to contour rows.

Border strips along hedges are just as valuable to wildlife as those along woodlands.

Considerable waste grain and weed seed become available food when close to the shrubby cover and the supplementary food in the herbaceous strip.

Deltas of silt in the mouth of a terrace outlet are caused by the removal of soil from the border just above. Vegetation on the border will reduce terrace-maintenance costs and prevent clogging and reduced capacity of the outlet.

Insectivorous birds will feed out over the field from the vantage points of a border haven.

Replacing ugly scars of erosion with a band of herbaceous vegetation and bordering shrubs adds beauty to the field and woods.

Increased wildlife means enriched farm life.

An excellent distribution of food, escape cover, and nesting sites for wildlife can be obtained on many southeastern farms if borders are established as suggested.

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